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How Do Wisconsin’s Health Outcomes Compare To Those Of Other Midwest States?

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The previous Issue Brief in this series¹ documented that Wisconsin was ranked 16th in the US for age-adjusted mortality rates, and that by one estimate our rank would fall to 18th by 2010. Since we often compare ourselves to adjacent states in our region, this Issue Brief will examine Wisconsin’s performance in health outcomes as compared with the neighboring states of Illinois, Iowa, Minnesota, and Michigan. These states share some basic demographic characteristics; on most factors Wisconsin is most similar to its western neighbors Iowa and Minnesota, while Illinois and Michigan have larger total populations, higher percent minority, and larger urban populations.

One of the overarching goals of the federal *Healthy People 2010* and the state’s *Healthiest Wisconsin 2010* is to increase both the length and quality of healthy life. Therefore, we examined three measures in an attempt to focus on each of these aspects of health outcomes. Two of the outcome measures address length of life – overall mortality (years of potential life lost) and infant mortality. Years of potential life lost (YPLL) is an indicator of premature mortality and counts every year that a person dies before the age of 75 as a year of potential life lost.² Therefore, if someone dies at age 50 they are considered to have lost 25 years of potential life. This

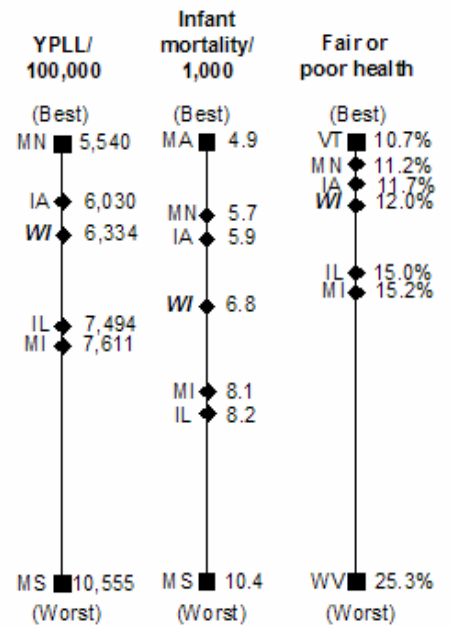
measure reports the total YPLL per 100,000 persons and is age-adjusted to the United States 2000 census population. The infant mortality rate reports the number of deaths in infants less than one year of age per 1,000 live births. Both YPLL and infant mortality rely on data from death certificates.

The final outcome measure relates to health related quality of life – self-reported health status. Self-reported health status is based on annual survey data from the Behavioral Risk Factor Surveillance System (BRFSS) and is measured as the percent of the population who report their current health as fair or poor. The other answer options given for health status in this survey are *excellent*, *very good*, and *good*, so *fair* and *poor* represent the worst or most-undesirable levels of health. For all three outcome measures described above, lower summary values are desirable and indicate a healthier population based on these indicators.

Current health outcomes

Figure 1 depicts where Wisconsin and the other Midwest states fit in the national distribution of all states for health outcomes. In each of the three measures, Wisconsin ranks in the middle of the five Midwest states, with Minnesota and Iowa performing better, and Illinois and Michigan performing worse. Annually in Wisconsin, 6,334 years of potential life are lost for every 100,000 residents of the state due to premature deaths. This is better than the national rate of 7,313/100,000 residents, but falls behind 14 other states. Minnesota is the healthi-

Figure 1: Health Outcomes in Midwest



est state in this regard with only 5,540 years of potential life lost annually. Therefore, each year Minnesota gains approximately 800 more years of life than Wisconsin for every 100,000 residents .

Wisconsin's infant mortality rate indicates that 6.8 infants die for every 1,000 live births in the state. Across the country, states range from a low of 4.9/1,000 in Massachusetts to a high of 10.4/1,000 in Mississippi. Minnesota and Iowa both fare better than Wisconsin with infant mortality rates of 5.7/1,000 and 5.9/1,000, while Michigan and Illinois fare worse at approximately 8 infant deaths per 1,000 live births annually.

Wisconsin does well nationally in terms of the self-reported health status of its residents, falling just behind Minnesota and Iowa in the best ten. The least healthy state in this measure reports 25% of their population in these worst health states. However, more than 10% of Wisconsin's population still reports their health status on the low end of the scale as fair or poor.

Change in health outcomes

Although Wisconsin performs relatively well overall in health outcomes, the state falls short of all other Midwest states when looking at *improvement* of health outcomes. In all three examined measures, nearly two-thirds of all states are improving faster than Wisconsin. So while the current health of the state may appear to be on the right track, an examination of rates of improvement over the past decade tells a different story. Without change, the trajectory of improvement of other states appears to indicate that many will pass Wisconsin in the coming years. In addition, all of the other four Midwest states are improving at better rates in measures of both length and quality of life (Figure 2).

Between 1990 and 2000, Wisconsin succeeded in decreasing its YPLL/100,000 by 11%. However, this did not keep pace with a national average of 16% improvement. Illinois, Minnesota, Michigan, and Iowa all had at least 13% improvement.

Wisconsin's infant mortality rate decreased by 20% over the past decade, well below the national improvement of 25%. Not only does the state again fall at the bottom of the Midwest pack in this measure of change, but no Midwest state was in the top 10 nationally or came near to the improvements of 35% and greater in New York and Washington. Only five states in the nation demonstrated any improvement in the percent of their residents self-reporting fair or poor health status. All other states had more

Nearly two-thirds of all states are improving faster than Wisconsin.

people reporting these worst health statuses in 2003 than in 1995. Wisconsin again falls below the other Midwest states with an increase of 17% in fair/poor health status, indicating that in 2003 an estimated 70,000 *additional* Wisconsin adults had fair or poor health than would have if the 1995 rate had been maintained.

Conclusions

While Wisconsin clearly is currently one of the healthiest states, its lower current ranking on infant mortality and its lower improvement over the past decade in all three outcome measures are cause for concern. In order to approach how to improve these outcomes, a number of additional steps are needed. First, can

this be better understood by breaking down outcomes by age group and cause-specific mortality to indicate where we lag behind other states? Can other outcome indicators such as Healthy Days³ or disability days⁴ be incorporated to make our understanding of non-mortality outcomes more complete? Second, how do we compare to other states not only in mean outcome levels but in the distribution or variance of these across the state in subpopulations?⁵ Third, what are the associations and potentially causal relationships between determinants of health and state health outcomes? For example, how healthy would Wisconsin be if we had the highest level of determinants that any state has reached, such as the best medical care, individual behaviors, and educational achievement? Finally, is it possible to determine what the most cost effective balanced portfolio of public and private health investments would be to guide our path to becoming the healthiest state?^{6,7} This is the challenge and work plan of our "Making Wisconsin the Healthiest State" grant from the Wisconsin Partnership Fund For a Healthy Future (Blue Cross Program). Future publications over the next three years will address these important questions.

References

1. Kempf AM, Peppard PE, Kindig DA, Remington PL. How fast can Wisconsin become healthier? A framework for setting state health objectives. *Wisconsin Public Health and Health Policy Institute Issue Brief* 2004. Vol. 5(9).
2. Dranger EA, Remington PL. YPLL: A summary measure of premature mortality used in measuring the health of communities. *Wisconsin Public Health and Health Policy Institute Issue Brief* 2004. Vol. 5(7).
3. Centers for Disease Control and Prevention. Measuring Healthy Days. Atlanta, Georgia: CDC, November 2000.
4. Guend H, Stone-Newsom R, Swallen K, Lasker A, Kindig D. State disability adjusted life expectancy: Using census disability data. *Wisconsin Public Health and Health Policy Institute Technical Report* 2002.
5. Asada Y, Kindig DA. Considering health inequality. *Wisconsin Public Health and Health Policy Institute Issue Brief* 2003. Vol. 4(2).
6. Brownson RC, Baker EA, Leet TL, Gillespie KN (eds). *Evidence-Based Public Health*. 2003. New York: Oxford University Press.
7. Kindig D, et al. What new knowledge would help policymakers better balance investments for optimal health outcomes? *Health Services Research*. 2003; 38:1923-37.

Figure 2: Percent Improvement in Past Decade

